

SECTOR: HEALTHCARE
 CLIENT: NHS GREATER GLASGOW & CLYDE/GLASGOW UNIVERSITY
 SOLUTION: DLW LINOLEUM MARMORETTE, TARASAFE™ ULTRA AND TARADOUCHE ELEGANCE SD

DLW Linoleum's Marmorette prescribed for hospital refurbishment

"We wanted to use linoleum. The reasons were simple: it's available in good colours, it's a 'green' material and is naturally biocidal."

Jeremy Armitage, Armitage Associates.

When Armitage Associates was asked to mastermind the £16 million refurbishment of the landmark five-storey Glasgow Royal Infirmary University Tower, the architects preferred to specify linoleum wherever possible.

Jeremy Armitage, partner in the Glasgow-based architectural and interior design practice, said: "We wanted to use linoleum. The reasons were simple: it's available in good colours, it's a 'green' material and is naturally biocidal."



International vinyl and linoleum flooring specialists Gerflor supplied 4,000m² of Marmorette from the DLW Linoleum range for the building, which hosts a mixture of laboratories, offices and medical teaching facilities for the hospital and Glasgow University. The facade of the 1970s building was changed to allow much more light into the previously "claustrophobic" interior and the Marmorette was used to create visual appeal and identification.

Jeremy Armitage said: "We used the linoleum as a design tool throughout. Each floor had alternating four metre wide stripes of light and dark gray, slightly offset, running across it regardless of walls and spaces." He added: "The lift lobby on each floor had a way finding bright colour, such as green, interrupting the two grays and that colour was repeated elsewhere on the floor."

Despite being invented in the 1800s, linoleum could have been created specifically for 21st century designers. Available in a range of eye-catching colours and choice of surface treatments to reduce cleaning and virtually eliminate polishing, DLW Linoleum's best-sellers Marmorette and Colorette have:

- impeccable environmental credentials, because they're made of natural, mostly renewable, raw materials such as cork, jute and linseed oil;
- anti-bacterial properties and are hygienic and easy to clean;
- a long lifespan;



Usually specified in the health and education sectors, as well as for retail and office environments, the surface of DLW Linoleum is coated in a choice of protective layers. The PUR Eco System, specified on this contract, forms a strong bond with the linoleum to create a permanently durable, abrasion-resistant surface with enhanced resistance to chemicals and staining and is often used in areas where cleaning is frequent and aggressive. Marmorette is available in three thicknesses, 2mm, 2.5mm, and 3.2mm, and has 51 choices in its palette, while Colorette is bright, vibrant and slightly textured in 23 colours in depths of 2.5mm and 3.2mm. As well as being slip, flame and heat resistant, both ranges have acoustic options.

Kenny Smith, contracts director at MacGregor Flooring Company Ltd of Hamilton, said the fitters had enjoyed the test of laying the alternating stripe pattern across whole floors interrupted by many walls. He said: "It was one of the most challenging jobs we have done, laying 40 metre lengths through several rooms at a slight angle. We spent a lot of time taking measurements to make sure it was perfect from one room to the next."

Also specified were 500m² of Tarasafe™ Ultra, low maintenance, high-hygiene slip resistant safety flooring for toilet and changing areas, and 200m² of Taradouche Elegance SD studded slip resistant safety flooring for barefoot wet areas.



Technical Properties

Product Description	Marmorette PUR 2.5
Type of flooring EN 548	Linoleum with PUR Eco System
Pattern EN 429	marbled
Backing	jute fabric
Safety Criteria	
Fire rating EN 13501-1	Cfl-s1
Slip resistance BGR 181	R9
Dynamic coefficient of friction EN 13893	DS (>.30)
Impact sound reduction ISO 140-8	4dB
General Properties	
Width of sheet EN 426	200cm
Length of sheet EN 426	20-31lm
Total thickness EN 428	2.5mm
Total Weight EN 430	2900g/m ²
Residual indentation EN 433	≤0.15mm
Colour fastness N 20 105-B02	≥6
Electrical resistance EN 1081	Underfloor heating compliant
Electrical insulation to ground VDE 0100	>200k0hm
Static electrical propensity EN 1815	app. 2.0kV
Thermal resistance EN 12667	0.015m ² K/W
Thermal conductivity EN 12574	0.17W/mK
Classification according to EN 685	Class 23 / 34 / 42
CE Marking	
CE	EN 14041

Product Description	Tarasafe™ Ultra
Thickness EN 428	2.0mm
Wear layer thickness EN 429	1.16mm
Weight EN 430	2610g/m ²
Classification	
Norm / Product specification	EN 649
European classification EN 685	34 - 43
K rating	K5
Fire rating EN 13501-1	Bfl-s1
Static electrical propensity EN 1815	2
Slip resistance wet DIN 51130	R10
Electrical behaviour (antistatic) EN 13883	DS
Slip resistance: pendulum test BS 7976	≥ 36
Slip resistance: ramp test EN 13845 Annexe C	ESb ^[3]
Surface roughness Rtm/Rz	Rz ≥ 20
Performances	
Wear resistance EN 660.2	≤ 2.0mm ³
Wear group EN 649	T
Dimensional stability EN 434	≤ 0.40%
Residual indentation EN 433	≤ 0.10mm
Thermal Conductivity EN 12 524	0.25W(m.K)
Colour fastness EN 20 105-B02	≥ 6
Chemical products resistance EN 423	Good
Anti-bacterial & fungicidal treatment	Sanosol®
Surface treatment	Sparclean®
TVOC after 28 days ISO 16000-6	< 100
CE Marking	
CE EN 14041	Bfl-s1

Product Description	Taradouche Elegance SD
Total thickness on grainside EN 428	2.40mm
Weight EN 430	3015g/m ²
Width of sheet EN 426	200cm
Length of sheet EN 426	20lm
Classification	
Product specification	EN 649
European classification EN 685	34 - 43
Fire rating EN 13501-1	Bfl-s1
Slip resistance wet: ramp test DIN 51 097	A B
Performances	
Wear resistance EN 660.2	≤4mm ³
Wear Group EN 649	P
Dimensional stability EN 434	≤0.40%
Residual stability EN 433	≤0.10mm
Thermal conductivity EN 12524	0.25W/(m.K)
Colour fastness EN 20 105 - B02	≥6
Chemical products resistance EN 423	OK
Anti-bacterial & fungicidal treatment	OK
TVOC after 28days	<10
CE Marking	
CE	EN 14041